



Report:

**Criteria for Sustainability of POPs Laboratories
and Their Role at Regional Level:
Summary from Three Regional Workshops**

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During the 1st phase of the project, three regional workshops are held:

- 5-9 September 2005 for Latin American and Caribbean countries in Montevideo, Uruguay
- 4-6 October 2005 for African countries in Pretoria, South Africa, and
- 13-16 December 2005 for Asian and Central and Eastern European countries in Beijing, PR China

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Acronyms

BAT	Best available techniques
BEP	Best environmental practices
CEE	Central and Eastern European (countries)
CIS	Commonwealth of Independent States
DDT	Dichlorodiphenyltrichloroethane
DTIE	Division of Technology, Industry and Economics
ECD	Electron capture detector
ECOWAS	Economic Community of West African States
EU	European Union
GC	Gas chromatography
GEF	Global Environment Facility
GMP	Global Monitoring Plan (according to Article 16 of the Stockholm Convention on Persistent Organic Pollutants)
GRULAC	Group of Latin America and Caribbean (countries)
MEA	Multilateral environmental agreement
MoU	Memorandum of understanding
MS	Mass selective (for detector)
NGO	Non-governmental organization
NIP	National Implementation Plan (for the Stockholm Convention on Persistent Organic Pollutants)
PBDE	Polybrominated diphenyl ethers
PCB	Polychlorinated biphenyls
PCDD	Polychlorinated dibenzo- <i>p</i> -dioxins
PCDF	Polychlorinated dibenzofurans
POP(s)	Persistent organic pollutant(s)
QA	Quality assurance
QC	Quality control
SADC	South African Development Community
TEQ	Toxic equivalent (to aggregate PCDD/PCDF concentrations)
UN	United Nations
UNEP	United Nations Environment Programme
WG	Working group

Criteria for Sustainability of POPs Laboratories and Their Role at Regional Level

1 INTRODUCTION

UNEP Chemicals is executing the medium-sized GEF-funded Project “Assessment of Existing Capacity and Capacity Building Needs to Analyse POPs in Developing Countries” (for further information, see <http://www.chem.unep.ch/pops/laboratory/default.htm>). Besides the GEF, the governments of Canada, Germany, and Japan contribute financially to this project. This 2-year project addresses country needs for laboratory analysis of POPs, pursuant to the Stockholm Convention, and conditions necessary to conduct such analysis in a sustainable manner. The project focuses on the analysis of the 12 POPs listed in Annexes A, B, and C of the Stockholm Convention. The project document and the logframe matrix give reference as to the outcomes of the project as follows:

1. Identified needs and requirements for POPs analysis on a regional basis to fulfill the obligations of Stockholm Convention on Persistent Organic Pollutants;
2. Sustainability Criteria to operate POPs laboratories in a sustainable manner;
3. Identified political, technical, financial, and human resource conditions.

During the first phase of the project, three regional workshops covering four UN regions, namely Group of Latin American and Caribbean Countries (GRULAC), Africa, Asia and Central and Eastern European Countries (CEE) were held in Montevideo/Uruguay, Pretoria/South Africa, and Beijing/People’s Republic of China, respectively. The three workshop reports are available for download from the project’s WebSite at the following URL <http://www.chem.unep.ch/pops/laboratory/workshops.htm> . The outcomes from working groups at these workshops established the basis for:

- (a) Criteria to produce reliable results of POPs analysis (→ see document “Guidance for Analysis of Persistent Organic Pollutants (POPs)”);
- (b) Criteria to run a POPs laboratory in a sustainable manner.

This report addresses question (b) on sustainability criteria for POPs laboratories. At all three regional workshops, participants were tasked with guidance questions to address this issue. The guidance questions were used to stimulate discussions and organize the working group reports. In order to visualize the results, different fonts have been assigned to the regions as follows:

- GRULAC – Times Roman
- Africa – Letter Gothic
- Asia/CEE – Courier

2 COUNTRY NEEDS FOR POPs ANALYSIS

2.1 Charge Question

The National Implementation Plan would serve as the basis to identify needs for POPs analysis and to prioritize needs. Questions to be asked include

1. Why is POP analytical capacity needed?
2. Where is POP analytical data needed (please prioritize)?
3. What does analytical capacity include?
4. How to strengthen analytical capacity in the African region?
(Note: only national demands should be addressed in the NIP and not on a regional basis)

2.2 Results

2.2.1 Why Is POP Analytical Capacity Needed?

2.2.1.1 *GRULAC – Why Is POP Analytical Capacity Needed?*

Analytical capacity must serve as a tool so that countries may strengthen their capacity to protect human health and the environment from risks associated to POPs.

Analytical capacity to analyze POPs must satisfy the needs relative to the enforcement of the Stockholm Convention.

Analytical capacity must generate information that, among other things, allows for:

1. Elaboration of diagnosis: to learn about the current status and then to identify and set priorities in terms of problems in each country and to identify and design actions or steps to solve priority issues.
2. Measure the efficacy of the implementation of the Stockholm Convention and feed it into the National Implementation Plan.
3. Prevention: set reference values and limits to select and implement Best Available Techniques (BAT) and Best Environmental Practices (BEP).
4. Standards: preparation, adjustment, improvement of national standards. This activity must strengthen institutional capacity of countries to meet their national legislation and international commitments (including the Stockholm Convention) and establish requirements for future undertakings.
5. Control: support countries in the application of environmental standards, especially in terms of monitoring and surveillance. Satisfy needs relative to quality control of products for domestic consumption, import and export.
6. Research: stimulate the development of POPs research in each country.

7. Waste management: analytical capacity will allow for an adequate waste management within each country and among countries by capitalizing synergies resulting from conventions, in particular, the Stockholm and Basel Conventions.
8. Strengthen knowledge and management of information on hazardous substances, POPs in particular.
9. Generate information for the efficient communication of risk: production of data and information for an adequate communication to the population about risks relative to POPs.

2.2.1.2 Africa – Why Is POP Analytical Capacity Needed?

The following Table lists different countries' problems that were identified by the participants:

• Obsolete stockpiles
• Imported chemicals
• Previously used POPs pesticide
• Transformers
• Inadequate waste incineration: medical and municipal
• To meet requirements of SC: Inventory; NIP (including GMP*)
• Soil and water resources
• Air
• Food (vegetables, meat & fish): for own consumption and for export
• Confirmation of findings of Inventories
• DDT (still in use & intend to put into use – what is the distribution)
• Burning of sugar cane fields before harvest
• Migratory birds and other wildlife
• Training
• Research
• Legalize trade in various African countries
• POPs in humans
• Identification of contaminated sites
• Lack of public awareness

* Note: POPs monitoring is not an obligation under the Stockholm Convention and "should be implemented by the Parties on a regional basis when appropriate, in accordance with their technical and financial capabilities"

- Priority list of POPs to be analysed has been agreed upon as follows:
 - Agricultural pesticides
 - PCB
 - PCDD/PCDF
- Note on DDT:
 - Many African countries have used/are still using/intend to use DDT in malaria control;
 - Maybe DDT should be prioritized?

POPs analytical data are needed in the following areas:

- Regulators of environment, policy makers to assist formulation, stakeholders and interested parties
- Regulatory requirements for industry, NGOs

- Public awareness
- Modification of stack incinerator needed, but cannot modify process without information
- To protect trade (local consumption, import and export)
- To identify hot spots
- Research

2.2.1.3 Asia/CEE – Why Is POP Analytical Capacity Needed?

In order to fulfill requirements listed under the Stockholm Convention:

- Determine the state of the environment for priority setting;
- To tailor action plan;
- To introduce and evaluate BAT/BEP;
- To develop standards and methodologies
- To develop risk reduction strategies
- To develop or introduce national legal framework to fulfil commitments delegated from international treaties
- To introduce/improve and unify control systems in order to meet set standards
- To stimulate research institution development;
- To introduce effective WM system;
- To assist policy and decision makers in developing adequate decisions (in most cases politically not popular);

POPs analytical data are needed:

- Legislation development
- Legislation enforcement
- Inventory development (generated data for information)
- Monitoring programs and identification of hotspots
- Risk assessments
- Information dissemination
- Awareness building
- Policy making and stakeholders
- Research

2.2.2 What Does Analytical Capacity Include?

2.2.2.1 *GRULAC – What Does Analytical Capacity Include?*

Analytical capacity is the possibility of a country to produce a diagnosis and technical monitoring to learn about the POP levels in the population and the environment, and take the necessary steps to implement the Convention.

A sufficient number of qualified personnel must be available during all phases of the process.

1. IN THE SAMPLING

- Have adequate equipment, instruments (material-input, methods) and possibility to move people and samples
- Have sampling protocols for all pollutants in different matrices, in order to ensure the quality of the results
- Have mechanisms that allow sub-contracting the service

2. IN THE ANALYSIS

- Have infrastructure (adequate design, size, air-conditioning, all services)
- Have the equipment, standards, certified reference material, input, accessories to conduct priority analyses in matrices that are considered main indicators.
- Have a quality-assurance system in implementation
- Be accredited to perform priority POP analyses (national and international)
- Have bio-security program, waste treatment, avoid crossed contamination
- Have maintenance program for equipment

3. IN THE REGISTER

- Have qualified personnel
- Have software Implement a quality control and assurance program (for data analysis and treatment), in order to obtain comparable data.

Results generated must be accompanied with value guidelines and, in the context of the case study, this will facilitate interpretation and use of data by those responsible for the implementation of the Stockholm Convention, as well as others.

2.2.2.2 *Africa - What Does Analytical Capacity Include?*

Participants agreed that analytical capacity includes:

- Each country must have trained and skilled staff to decide what to do with data generated by the POPs laboratory. This includes:
 - data management and storage
 - interpretation of concentrations,
 - interpretation of TEQ values
 - risk analysis
 - risk communication
 - risk assessment
 - environmental health impact assessment
- Must be ready to do sampling ourselves – to reduce costs – even if analysis especially dioxins, are done in northern hemisphere lab
- Determination of scale of pollution to decide on the relevant actions to be taken
- Training capacity to operate analytical equipment and produce reliable results.
- Improved access to certified reference standards

2.2.2.3 *Asia/CEE - What Does Analytical Capacity Include?*

- Designing of an appropriate infrastructure
- Sufficient number of skilled personnel
- Fully equipped labs
- Upgrading of existing laboratories to meet the countries' needs
- Establishment of QA/QC
- Personnel education and training
- Accreditation of non-accredited laboratories
- Adequate sampling ability
- Establishment of inter-laboratory calibration system
- Participation in already existing inter-laboratory calibration systems.

2.2.3 How to Strengthen Analytical Capacity in the Region?

2.2.3.1 *GRULAC – How to Strengthen Analytical Capacity in the Region*

To strengthen the analytical capacity of the region implies not only to increase or improve the infrastructure or equipment but also to fully use the existing capacity, optimizing the use of resources, expertise, harmonizing criteria, improving reliability and being able to compare results.

a) Strengthening POP analytical capacity at the national level:

The role of the Stockholm Convention implementation plans in building national capacity for POP analysis, is highlighted.

Encourage and promote the development of laboratory networking to capitalize on the specific expertise and synergies among existing laboratories.

Laboratory infrastructure:

- Improvement, increase and maintenance or creation of physical plant and equipment, depending on needs.
- Assess existing capacity in order to improve and/or upgrade it.

Sensitization

- Sensitization of decision-makers on the need to strengthen the analytical capacity of the country.

Training

- Promote the training of personnel in less-developed laboratories by the more developed ones, through the formulation of projects, agreements, etc.
- Promote the training in sampling and analysis techniques, interpretation of results, reporting, among others.

Accreditation/ calibration

- Inter-calibration processes among laboratories in each country.
- Work in the preparation of laboratories towards their accreditation.

Economic resources

- Seek adequate national funds to strengthen analytical capacity, as well as funds from international organizations to strengthen national capacity.

Personnel

- Facilitate continuity of institutional efforts by maintaining qualified staff through encouragement and incentives.

Inter-institutional relations

- Strengthen inter-institutional communication and the institutional coordination to avoid duplication of efforts.

Legislation

- Reinvigorate legislation to ensure operation and sustainability of laboratories.

b) Strengthening POPs analytical capacity at the regional level

Encourage and promote development of laboratory networking to capitalize on specific expertise and synergies among laboratories. It would be useful, in turn to have regional pilot laboratories that contribute to further develop this process.

Capacity building:

- Create mechanisms to exchange information in sampling and analysis techniques, interpretation of results, reporting, etc.
- Promote region-wide personnel training through workshops, seminars, etc.
- Have a program for the exchange of professionals at the regional level to share experiences, methodologies, among other things, as for example internships among laboratories.

- Improve communication and synergies among laboratories in the region.

Laboratory infrastructure

- Strengthen existing laboratories so that they might provide services to countries in the region.
- Evaluate installed capacities to strengthen them: sampling, analysis, preparation of reference material, data interpretation, reporting, etc.

Accreditation / Calibration

- Conduct inter-calibration programs among laboratories in the region.
- Harmonize analysis and sampling methodologies among laboratories.
- Access certified reference material that satisfy the specific requirement of countries in the region.

Economic resources

- Seek funds for regional projects at the level of international organizations.
- Use the potential of bilateral and multilateral cooperation to conduct regional projects.

General Aspects

- Capitalize on the existence of Training and Technology Transfer Centers in the region, in issues such as Multilateral Environmental Agreements (MEAs), relative to the Stockholm Convention.
- Capitalize on existing sub-regional agreements, if applicable, so that countries encourage bilateral or multilateral initiatives to develop joint programs.
- Look for adequate ways for the transportation of samples from one country to another, such as bilateral agreements or MoUs.

2.2.3.2 *Africa - How to Strengthen Analytical Capacity in the Region*

Training of staff:

- Basic training in sampling and analytical techniques on African continent is more cost-effective and provides wider coverage
- Training and education needed in chromatography and mass spectrometry
- Training focused on specific POPs, e.g., PCB and pesticides using basic chromatography
- If necessary, specialized training could be done overseas, e.g., for dioxin analysis, and to transfer knowledge into Africa
- Properly motivated request to organize training sent to UNEP
- Academic networks/programs should be used to provide training

Transfer of skills:

- Within labs.
- Between labs in the same country (inter collaboration studies).
- Between labs in neighbouring countries (inter collaboration studies).

Procurement of:

- New equipment, standards, chemicals, dissemination of procedures

Request to UNEP Chemicals to make database on existing POPs labs in Africa more powerful so that it can be used in procuring training/assistance from these labs. Need to update the database on a regular basis is necessary.

2.2.3.3 Asia/CEE – How to Strengthen Analytical Capacity in the Region

- Provisions of adequate finances;
- Implementing methods and techniques for new substances;
- Establishing data bases;
- Foster the information exchange and gained experience on the regional and global level;
- Asking UNEP (and other relevant international organizations) to establish a list of Websites containing information on POPs;
- Promote collaboration on the sub-regional level for technical assistance;
- Staff training;
- Unify in all UN languages:
 - All basic GMP documents
 - Personnel training manuals and methodologies
 - Glossary

3 SUSTAINABILITY CRITERIA IN POPs ANALYSIS

3.1 Charge Question

Participants were asked to consider the following parameters when developing sustainability criteria:

1. Economic sustainability (public sector, private sector, [research])
2. Technical sustainability
 - comply with respective criteria established for the analytical part;
 - minimum number of samples analyzed per year, matrix and POP, which are necessary to obtain/maintain functioning and quality of the laboratory;
 - years of experience
3. Role of a "central African/Asian/CEE/GRULAC" POPs laboratory

And to comment on preferred options from the following list of possible options:

- (a) Build a central laboratory for POPs analysis to serve the respective region;
- (b) Create POPs analytical capacity by upgrading one / some existing laboratories within one country;

- (c) Establish a network of POPs laboratories according to POP and matrix (through the respective region);
- (d) Establish a broad network of POPs laboratories on the basis of the analytical criteria established.

3.2 Results

GRULAC general consideration on **ONE SINGLE LABORATORY OF REFERENCE** (new or on the basis of an existing one).

In favor:

- Concentrates resources \Rightarrow efficiency
- Laboratory of excellence comparable to other international ones (network)
- Control is under one single institution
- High international and political visibility

Against:

- Sustainability tied to institutional instability
- Concentrates efforts in one single laboratory \Rightarrow > risk of saturation (transportation?)
- Does not contribute to build on national capacities
- Increases regional imbalances

Asia/CEE: GEF funding should support developing country costs for implementation of Stockholm Convention (full enabling and incremental, otherwise—apply to GEF implementing agencies).

3.2.1 Economic Sustainability

3.2.1.1 *GRULAC – Economic Sustainability*

PREMISES:

1. Countries have different economic, scientific and technological realities that determine the sustainability of the POP Laboratory (human resources, input: solvents, national reagents, local technical services, etc.).
2. The procedures of POP analysis are different (experience, infrastructure, etc.).
3. Each country has different POP analysis needs (e.g., pesticides vs. PCB).
4. Resources are limited \Rightarrow allocation should favour efficiency and excellence.

3.2.1.2 *Africa - Economic Sustainability*

Member governments, private sector, donor countries and the GEF (Stockholm Convention) together have to be mobilised in order to achieve economic sustainability for POPs laboratories. One central forum for the African region coming from sub-regional fora is

suggested to co-ordinate members' requests for financial (and technical) support through UNEP, as the most viable method to obtain the needed assistance from the developed world. A financial structure for analytical facilities should ensure that financial support cannot be diverted for other purposes than intended by the funding agencies (independent business units). A scientific peer-review system is suggested to ensure effective use of resources. Appropriate commercial structures for POPs laboratories should be put in place.

3.2.1.3 Asia/CEE –Economic Sustainability

a. Governmental Labs

- Ensured under legislation
- Ensured by user pay (legislated)(e.g. pollution, food safety, border control)
- Required under NIP (threat may be govt change)
- Rationalized govt/other laboratory collaboration
- UNEP regional centers of excellence?
- Must have sufficient annual throughput
- Supplementation from donor support
- Have research projects for "slack" times and outside funds

b. Commercial/Private Labs

- Need established track record
- Accredited
- If used for regulatory purposes, govt needs back-up if it closes down (or is being bought by other company)
- More business-minded compared to govt lab
- More flexible for change
- Sufficient annual throughput
- Costs may be higher due to profit motive

c. University/Research Lab

- Loss of research students after postgraduate degree completion
- Unlikely to be accredited if only student researchers
- Difficult to meet turn-around time
- Trouble with enough sample throughput
- Semi-commercial institute may not have the above disadvantages
- May be a govt-funded lab at university also doing research (salaries are guaranteed)
- May be preferred in small countries with frequent govt changes
- Regional node for groups of small countries, e.g., Pacific islands

3.2.2 Technical Sustainability

3.2.2.1 *GRULAC – Technical Sustainability*

PROPOSAL: Regional laboratory networks with different categories and funding (are those represented the only ones or the best ones in each country? ⇒ questionnaires + inspections by experts (UNEP)):

Categories (objective and verifiable criteria):

1. pesticides
2. + PCB
3. + non-ortho and mono-ortho PCB
4. + PCDD/PCDF
5. or all → PCDD/PCDF and other POPs, for example, PBDE? (objective criteria).

And matrices?: industrial vs. environmental

1. **Horizontal network:** 1 laboratory per country (20?) or more (which ones?).
2. **Hierarchical network:** 4-5? Pilot laboratories distributed according to geography and capacity ⇒ connected to the other laboratories in each region.

3.2.2.2 *Africa - Technical Sustainability*

The most important factor in technical sustainability is the access to (and retention of) well-trained and qualified staff. It is noted that only very few laboratories at the moment are using GC-MS methods, the preferred way to deal with POPs analysis (labs doing GC-ECD would have to modify their methods to include two columns per analysis for proper quality assurance). An enormous challenge lies ahead for the continent to do its own POPs analyses according to internationally accepted quality criteria and the need for proper training in chromatography, mass spectrometry, sampling, etc., is obvious. A short term and long term strategy has to be put in place to ensure analytical capacity is established throughout Africa, starting with existing laboratories. For the benefit of the continent, the best way is to co-ordinate the training through regional structures and not only to rely on binational agreements with donor countries.

3.2.2.3 *Asia/CEE – Technical Sustainability*

- Closely linked with financial sustainability
- Refer to WG2 item 4 for requirements of analytical capacity and QA/QC
- Separate high level processing areas from low-level analysis
- Method development/research/sustained capacity by postgraduate research
- Regional centers (of excellence–EU) Stockholm Convention (importance for training)
- Cooperation with Basel Convention implementation
- Cooperation with industry
- University role in offering relevant training courses

- Some minimal number of samples/yr are necessary to maintain quality (number will differ depending on matrix complexity/contamination/analyte)
- Level of financial support should correspond with number of samples to be analyzed.

3.2.3 Role of POPs Laboratories

3.2.3.1 *GRULAC – Role of POPs Laboratories*

Responsibility of laboratories? (compatibility with current role, e.g., research vs. services).

Relation between responsibility/resources.

REGIONAL PILOT LABORATORIES

There is general consensus as to the fact that the implementation of just one single regional laboratory would not be adequate to cover the regional needs mostly due to:

- Sustainability limited by institutional instability
- Concentration of efforts in one single laboratory with risk of saturation (transportation mechanisms)
- Does not contribute to build on national capacities
- Increases regional imbalances

Requirements: provide evidence of infrastructure and equipment, experience in research and/or development and POPs services to third parties, demonstrate sustainability over time. Training capacity and knowledge transfer (seminars, courses). Ensure an adequate and balanced geographical coverage. Must work with validated methods and proven analytical capacity for 100-500 annual samples. Be subject to periodical auditing by experts and national and international organizations and possess a quality assurance and quality control system. Governments in countries hosting Pilot Laboratories must commit themselves to ensuring the regional role of such laboratories.

Responsibilities: development and harmonization of analytical methods, implementation of inter-calibration programs (to provide reference material and standards), knowledge transfer and training of human resources on a regional level.

Corresponding Regional Centers - MEAs: facilitate and coordinate shipment of samples for inter-calibration exercises and analysis in the framework of the Stockholm Convention. Co-participation in the organization of workshops and training courses.

Pilot Laboratories will help disseminate know-how and training of human resources. Building on national capacities will depend on country actions at the level of NIP or other projects, that could come together to strengthen this Project.

3.2.3.2 *Africa - Role of POPs Laboratories*

A single central laboratory is probably not the best solution as every nation needs to gain capacity for POPs analysis. Rather, a regional approach should be followed with four sub-regions as defined along the lines of SADC and ECOWAS (Northern and Eastern regions to be defined to serve all Stockholm Parties). Existing political alliances would improve chances of efficient government support (intergovernmental co-operation) for the POPs projects initiated through the Stockholm Convention. Establishment of effective regional networks (options c or d) and a regional co-ordinator / lead facility should be the first priority.

For the (next round) feasibility study from UNEP to start, several criteria were mentioned to help identify pilot laboratories selected for assistance. These should be selected to reflect the four geographical areas as well as the priority topics of (i) PCBs in transformer oils and (ii) POPs pesticide residues in food. A track record of training and research, well-managed and stable infrastructure, technical expertise, number of samples handled as well as proven quality control measures should be additional criteria for selection from the inventory of laboratories. This data base is to be updated (new UNEP form is available) to ensure every registered laboratory is eligible for this pilot study.

The role of sub-regional leading laboratories would include training, communication with UNEP and ensure good collaboration between laboratories, and scientific peer-review. Although the ultimate goal is that all 12 POPs should be analysed in Africa, it is noted that only Egypt presently has done some dioxin and furan analyses. Regional and national facilities will grow with time in an orderly way, taking into consideration that some specialisation in types of analyses would be inevitable in order to obtain the economic advantage of high number of samples per lab per day. This, however, would not reduce the regional and national centres' responsibility of gaining scientific know-how in all the POPs analyses to ensure proper communication with the general population (public awareness) and with government officials / decision makers as well as to scientifically interpret (risk assessment) the more complicated analytical results such as TEQ-values originating from the analysis of dioxin/furan (and dioxin-like PCB) congeners. Training should take place to empower every member country at least to do its own sampling, e.g., for the technically complicated stack-gas sampling procedure, in order to limit the total cost of incinerator monitoring.

3.2.3.3 *Asia/CEE – Role of POPs Laboratories*

Models to consider laboratories on a sub-regional basis include the following:

- Cooperation for Central Asian countries (Xstans),
- CIS,
- Developing Country Pacific Islands, and
- West Asian Arab developing countries Developing country Asian laboratory
- Need for regional cooperation depends on existing capacity of countries in a particular region/subregion--most agreed subregional networks were a good idea.

The roles for these laboratories may include:

- Each country needs a strategy to fulfill monitoring obligation

- Countries should develop individual capacity that is likely to be sustainable (for most non-Pacific island countries this will be at minimum all but dioxins and furans (but perhaps not all matrices)) (those that can be done with GC/ECD)--tied to need for legislation
- Many well developed labs are willing to assist
- Capacity developed can also be used for other purposes
- Sensible to utilize existing capacity rather than establishing entirely new laboratories
- Each lab does not need to analyze all analytes/matrices
- Priority support to existing laboratories
- Reference laboratories for method development/validation/training support/analysis of difficult matrices/analytes
- For sample transport to countries need protocols in place and facilitative attitude--this is often difficult--especially difficult since contain POPs--advised to label sample as "scientific sample for research purposes and matrix"
- Exchange visits are very useful
- List/Provision(?) of minimum equipment needs/costs for pesticide analysis would be useful for some countries.